# Game Theory 

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Exercise set 4

Exercise 1 Consider the following traffic network with two commuters.

a. Identify for each commuter the strategies.
b. Represent this game as a bimatrix game.
c. Determine the Nash equilibria.

Short solutions.

Solution 1 a. Strategy 1 is route choice $\{1,2\}$. strategy 2 is route choice $\{3,4\}$
b. $\left(\begin{array}{rr}5 / 3 ; 5 / 3 & 4 / 3 ; 4 / 3 \\ 4 / 3 ; 4 / 3 & 5 / 3 ; 5 / 3\end{array}\right)$.
c. This game has two Nash equilibria: $(1,2)$ and $(2,1)$. In each Nash equilibrium each player has costs $4 / 3$.

